

10/508759
DT04 Rec'd PCT/PTO 22 SEP 2004

Sequence Listing

<110> APROGEN INC.

<120> HUMANIZED ANTIBODY AND PROCESS FOR PREPARING SAME

<130> PCA30215/APG

<150> KR10-2002-0015708

<151> 2002-03-22

<160> 38

<170> KopatentIn 1.71

<210> 1

<211> 345

<212> DNA

<213> Artificial Sequence

<220>

<223> HEAVY CHAIN of HZVII

<400> 1

cagggtccagc tgggtgcagtc tggagactgaa gtgaagaagc ctggggcctc agtgaaggtt 60

tccttgcaaaag cttctggcta caccttcacc agtgcttggaa tgaactgggt gcgacaggcc 120

cctggacagg gtcttgagtg gatgggacgg atttatccta gtgggtgaaag cactagctac 180

gcacagaagt tccagggcag agtcacaatg actgcagaca aatccacgag cacagtctac 240

atggagactca gcagcctgag atctgaggac acggcggtgt attactgtgc aagagagtac 300

cgggttgcggcc gttggggcca aggaactctg gtcactgtct cttca 345

<210> 2

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> HEAVY CHAIN of HZVII

<400> 2

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Ala Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Ala
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Arg Ile Tyr Pro Ser Gly Gly Ser Thr Ser Tyr Ala Gln Lys Phe

50

55

60

Gln Gly Arg Val Thr Met Thr Ala Asp Lys Ser Thr Ser Thr Val Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Tyr Arg Val Ala Arg Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ala
115

<210> 3
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> LIGHT CHAIN of HZVII

<400> 3
gatatcgtga tgacccaaac tccactttct ttgtcggtta cccctggaca accagcctct 60
atctcttgca agtcaagtca gagcctctta tatagtatg gaaaaaccta tttgaattgg 120
ttattacaga agccaggcca gcctccacag cgccctaattct atctgggtgc taatcggac 180
tctggagtcc ctgacaggtt cagttggcagt ggatcaggaa cagattttac actgaaaatc 240
agcagagtgg aggctgagga tgttggagtt tattactgcg tgcaaggtac acattttcct 300
cagacgttcg gtggaggcac caaggtggaa atcaaa 336

<210> 4
<211> 112
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<213> Artificial Sequence

<220>
<223> LIGHT CHAIN of HZVII

<400> 4
Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
20 25 30
Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Lys Pro Gly Gln Pro
35 40 45

Pro Gln Arg Leu Ile Tyr Leu Val Ser Asn Arg Asp Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Val Gln Gly
85 90 95

Thr His Phe Pro Gln Thr Phe Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 5
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Ryu94

<400> 5
gagaattcac attcacatg tacttg 26

<210> 6
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> HUR43-1

<400> 6
ctgctgcagc tggacctgac tctggacacc att 33

<210> 7
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> HUR44-1

<400> 7
cagggtccagc tgcagcagtc tggacctgaa ctg 33

<210> 8
<211> 33
<212> DNA

<213> Artificial Sequence

<220>

<223> HUR45-1

<400> 8

tggcccttg gtggaggctg cagagacagt gac

33

<210> 9

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> HUR46-1

<400> 9

gcctccacca agggcccatc ggtttcccc ctg

33

<210> 10

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> HUR31

<400> 10

cagcggccgc tcatttaccc ggggacag

28

<210> 11

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Ryu86

<400> 11

caaagcttgg aagcaagatg gattca

26

<210> 12

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> HUR48

<400> 12
caagatatcc ccacaggtac cagatac

27

<210> 13
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> HUR49

<400> 13
tgtgggata tcttgatgac ccaaact

27

<210> 14
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> HUR50

<400> 14
cacagatctt ttgatttcca gcttggt

27

<210> 15
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> HUR51

<400> 15
atcaaaagat ctgtggctgc accatct

27

<210> 16
<211> 58
<212> DNA
<213> Artificial Sequence

<220>
<223> CK1D

<400> 16
gcgccgtcta gaattAACAC tctccctgt tgaagcttt tgtgacgggc gaactcag

58

<210> 17
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> YM001N

<400> 17
ccggaattca cattcacgat gtacttg

27

<210> 18
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> YM003

<400> 18
tgcccccaga ggtgct

16

<210> 19
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> ym257

<400> 19
acgcattcag tgcttcttgg atgaactggg tga

33

<210> 20
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> YM258

<400> 20
atccaaagaag cactgaatgc gtagccagaa g

31

<210> 21
<211> 38
<212> DNA
<213> Artificial Sequence

<220> 21
<223> YM004

<400> 21
ccaattcaaa gcgggttttc cattactata taagaggc 38

<210> 22
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> YM009

<400> 22
gcagccaccc tacgttgat ttccaccttg gt 32

<210> 23
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Ryu 166

<400> 23
ggatttgtct gcagtcattg tggctctgcc ctggaactt 39

<210> 24
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Hur 37

<400> 24
gacaaatcca cgagcacagt ctacatg 27

<210> 25
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Ryu 118

<400> 25

ctgtggaggc tggcctggct tctgtataa cca

33

<210> 26
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Ryu 119

<400> 26
ggccagcctc cacagctcct aatctatctg

30

<210> 27
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> KR127VH

<400> 27
caggccaggc tgcagcagtc tggacctgaa ctgggtgaagc ctggggcctc agtgaagatt 60
tcctgcaaag cttctggcta cgcattcagt agttcttggta tgaactgggt gaagcagagg 120
cctggacagg gtcttgagtg gattggacgg atttacccctg gagatggaga tactaactac 180
aatgggaagt tcaagggcaa ggccacactg actgcagaca aatcctccag cacagcctac 240
atgcagctca gcagcctgac ctctgtggac tctgcggctt atttctgtgc aagagagttac 300
gacgaggctt actggggcca agggactctg gtcactgtct ctgca 345

<210> 28
<211> 115
<212> PRT
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<220>
<223> KR127VH

<400> 28
Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser
20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Val Asp Ser Ala Val Tyr Phe Cys
85 90 95

Ala Arg Glu Tyr Asp Glu Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ala
115

<210> 29
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> KR127VK

<400> 29
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atctcttgca agtcaagtca gagcctctta tatagtatg gaaaaaccta tttgaattgg 120
ttattacaga ggccaggcca gtctccaaag cgcctaattct atctgggtgc taaactggac 180
tctggagtcc ctgacaggtt cactggcagt ggatcaggaa cagattttac actgaaaatc 240
atcagagtgg aggctgagga tttggagtt tattactgcg tgcaaggtac acattttcct 300
cagacgttcg gtggaggcac caagctggaa atcaaa 336

<210> 30
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> KR127VK

<400> 30
Asp Ile Leu Met Thr Gln Thr Pro Leu Ile Leu Ser Val Thr Ile Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
20 25 30

Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser

35

40

45

Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
50 55 60

Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ile Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Val Gln Gly
85 90 95

Thr His Phe Pro Gln Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 31
<211> 294
<212> DNA
<213> Artificial Sequence

<220>
<223> DP7

<400> 31
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tcctgcaagg catctggata cacccacc accactata tgcactgggt gcgacaggcc 120
cctggacaag ggcttgagtg gatggaaata atcaacccta gtggtggtag cacaagctac 180
gcacagaagt tccagggcag agtcaccatg accagggaca cgtccacgag cacagtctac 240
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc gaga 294

<210> 32
<211> 98
<212> PRT
<213> Artificial Sequence

<220>
<223> DP7

<400> 32
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30
Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Ile Ile Asn Pro Ser Gly Gly Ser Thr Ser Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg

<210> 33
<211> 302
<212> DNA
<213> Artificial Sequence

<220>
<223> DPK12

<400> 33
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atctcctgca agtctagtca gagcctcctg catagtatgc gaaagaccta tttgtattgg 120
tacctgcaga agccaggcca gcctccacag ctccatgtatc atgaagttc caaccggttc 180
tctggagtgc cagatagggtt cagtggcagc gggtcaggga cagatccac actgaaaatc 240
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cc 302

<210> 34
<211> 100
<212> PRT
<213> Artificial Sequence

<220>
<223> DPK12

<400> 34
Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu His Ser
20 25 30

Asp Gly Lys Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Pro
35 40 45

Pro Gln Leu Leu Ile Tyr Glu Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ser
85 90 95

Ile Gln Leu Pro
100

<210> 35
<211> 345
<212> DNA
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<220>
<223> HEAVY CHAIN of HZI

<400> 35
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tcctgcaaag cttctggcta cgcattcagt agttcttggta tgaactgggt ggcacaggcc 120
cctggacagg gtcttgagtg gattggacgg atttatcctg gagatggaga tactaactac 180
gcacagaagt tccagggcaa ggccacactg actgcagaca aatccacgag cacagcctac 240
atggagctca gcagcctgag atctgaggac acggcggtct atttctgtgc aagagagtac 300
gacgaggctt actggggcca aggaactctg gtcactgtct cttca 345

<210> 36
<211> 115
<212> PRT
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<220>
<223> HEAVY CHAIN of HZI

<400> 36
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Ser Thr Ser Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr

65

70

75

80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Glu Tyr Asp Glu Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 37
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> LIGHT CHAIN of HZI

<400> 37
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atctcttgca agtcaagtca gagcctctta tatagtatgc gaaaaaccta tttgaattgg 120
ttattacaga agccaggcca gtctccaaag cgcctaatct atctggtgtc taaactggac 180
tctggagtcc ctgacagggtt cagtggcagt ggatcaggaa cagattttac actgaaaatc 240
agcagagtgg aggctgagga tggggagtt tattactgcg tgcaaggtac acattttcct 300
cagacgttcg gtggaggcac caaggtggaa atcaaa 336

<210> 38
<211> 112
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<213> Artificial Sequence

<220>
<223> LIGHT CHAIN of HZI

<400> 38
Asp Ile Leu Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
20 25 30

Asn Gly Lys Thr Tyr Leu Tyr Trp Leu Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Val Gln Gly
85 90 95

Thr His Phe Pro Gln Thr Phe Gly Gly Thr Lys Val Glu Ile Lys
100 105 110